

## REMARKS

### 1. New Claims 13-15.

New claims 13-15 have been added in an attempt to better define the claimed invention. No new matter has been added with these claims. Support for new claims 13-15 may be found on page 11, lines 11-14 and in Figure 6. Favorable action as to these claims is respectfully requested.

### 2. Rejection of claims 1, 2, and 4-12 under 35 U.S.C. §103(a) as obvious over Brownawell, U.S. Patent No. 5,225,081, hereafter "Brownawell" or "'081" in view of DeJovine, U.S. Patent No. 4,144,166, hereafter "DeJovine" or "'166".

Applicants greatly appreciate the detailed basis of rejection set forth in the Office Action of June 25, 2003 and again in the Interview Summary of December 23, 2003. However, Applicants continue to respectfully submit that the claims are patentable over the cited rejection.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.

This standard has not been met in the instant case, both with respect to independent claim 1, 7, and 10, as well to new independent claims 13 and 15.

First, Applicants wish to clarify the basis of rejection and the teachings of the cited references.

Brownawell discloses a filter system having an active filter media containing a chemically active filter media, a physically active filter media or a combination thereof. The active filter media is in the form of a hollow composite formed from the active filter media and a thermoplastic binder. Brownawell is primarily concerned with the use of this hollow composite and the PTO appears to rely on the embodiments using the hollow composite for the disclosure of an oil filter having both a mechanically active filter member and a chemically active filter member.

However, the PTO also appears to be relying on a 2-stage filter disclosed in Figure 6 of Brownawell for the disclosure of discrete particles. In this embodiment, a first and separate housing 132 contains discrete particles of what can be a chemically active filter media 130. '081, col. 13, lines 18-19. This first housing 132 must be used in conjunction with a separate housing 104 that contains both the claimed hollow composite 112 and an inactive filter media 110. Nothing in Brownawell appears to disclose using the housing 132 containing the discrete particles of active filter media 130 in combination with an inactive filter media. Rather, Brownawell appears to use the inactive filter media solely with the hollow composite, i.e., see '081, col. 12, lines 45-51.

Applicants note that it is only in the housing 132 in Brownawell's Figure 6 that the chemically active filter media may be in the form of pellets and then only if the chemically active filter media is selected to be supported on a substrate in the shape of pellets. See '081, col. 2, lines 3-12. Per the overall teachings of the '081 patent, the chemically active filter media used in housing 104 in Figure 6 may only be present in the form of a hollow solid composite formed from the chemically active filter media and a thermoplastic binder. Thus, no pellets comprising a chemically active filter media are used with the inactive filter media of Brownawell.

The secondary reference DeJovine is relied upon for its disclosure of a relatively insoluble polymer support media. DeJovine discloses a solid thermoplastic polymer having a controlled rate of dissolution in oil, the polymer containing particles that are intentionally released into the oil as a function of the controlled rate of dissolution of the polymer. The PTO appears to rely on DeJovine's disclosure that some polymers having a controlled rate of dissolution into oil are 'relatively oil-insoluble'.

In contrast, Applicants' inventions of independent claims 1, 7, and 10 require a hollow housing that contains *both* a mechanically active filter member and a chemically active filter member disposed within a housing. It is assumed that the PTO is relying on Brownawell's inactive filter media 110 for the disclosure of Applicants' required mechanically active filter member. Moreover, as set forth in new independent claims 13 and 15, Applicants' chemically active filter member must have a plurality of pellets that are comprised of from 80-97% by weight of a basic salt and from 3-20% by weight of a polymeric binder and that are bonded

together or cohesively associated with one another to form a substantially integral but porous chemically active filter member that is self-supporting.

The cited combination of references fails to provide a prima facie case of obviousness as to any of these claimed inventions.

With respect to independent claims 1; 7, and 10, The PTO states that it would have been obvious to one of ordinary skill in the art to provide the chemically active filter media of Brownawell with the relatively oil-insoluble polymer support material of DeJovine, in order to facilitate handling of the chemically active filter media of Brownawell. *Office Action of 6/25/03, pg. 3* The PTO deems this modification to “be especially obviousness in view of the disclosure by Brownawell ‘081 that the chemically active filter media may be supported on a substrate which is the same as, or different from, the composite media.” *Office Action of 6/25/03, pg. 3, citations omitted.*

However, the discussion in Brownawell in col. 2, lines 3-12 as to the support of the chemically active filter media on a substrate in no way supports the PTO’s stated basis of rejection. Rather, the disclosure at col. 2, lines 3-12 of Brownwell ‘081 merely indicates that the chemically active materials may be supported on substrates such as alumina, activated clay, cellulose, cement binder, silica-alumina, activated carbon and the like. Brownawell continues on to state that such *substrates* may be in the form of pellets, cylinders, or spheres. Nothing in Brownawell indicates that pellets that comprise *both* a chemically active material and a thermoplastic could be used in the housing 104 of Figure 6.

The PTO’s suggestion that DeJovine’s oil insoluble polymer could be used to bind the discrete pellets in the housing 132 of Figure 6 is unsupported by the cited combination of references. MPEP 2143 requires that the motivation to do what Applicants have done come from the cited references. Even if the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the *desirability* of such a modification. *In re Laskowski*, 10 U.S.P.Q.2d 1397, 1398 (Fed Cir. 1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 13 U.S.P.Q.2d 1248 (Fed Cir. 1989). Thus, the PTO’s suggestion that a desire to improve handling is sufficient motivation fails to satisfy the requirements of a prima

facie case of obviousness. No support or evidence has been offered to show that this motivation comes from the cited references.

Moreover, even if such motivation did exist, the resultant combination with the discrete particles of Brownawell's housing 132 fails to provide the oil filters of Applicants' claims 1, 7, 10, and 13. That is, housing 132 fails to include a mechanically active filter member. Nor has the PTO offered any suggestion as to why the solid hollow composite 112 in housing 104 would be replaced by the mixture of the discrete particles and the polymer of DeJovine. Applicants' note that any such suggestion would change the entire principle of operation set forth in Brownawell. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 123 U.S.P.Q. 349 (CCPA 1959); MPEP 2143.01.

Finally, the resultant combination fails to provide a *prima facie* case as to the oil filter of Applicants' claim 15. In this case, the cited combination fails to provide Applicants' particularly required pellets, especially with respect to Applicants' required pellet size and concentration of chemically active media, i.e., the basic salt.

For example, the PTO suggests that the recited percentage of basic salt would have been obvious, "since Brownawell would clearly seek to utilize a greater amount of treatment material than support material in the chemically active filter media." *Interview summary of 12/23/03*. Applicants must respectfully disagree. Rather than suggest that concentrations of chemically active filter media greater than 40-75% be used in the solid hollow composite, Brownawell discloses the embodiment of Figure 6, i.e., a two stage oil filter system. Thus, Brownawell's answer to greater chemical activity is the addition of separate housings containing discrete particles of active filter media.

Next, the PTO suggests that one of ordinary skill in the liquid purification art would readily recognize that Applicants' recited percentage of basic salt could be achieved by melting or softening the polymer, adding the chemically active media to this melted or softened polymer, and then cooling the resultant product to form the recited material. *Interview summary of 12/23/03*. Again, Applicants must respectfully disagree.

First, Applicants note that one of ordinary skill in the liquid purification art would not recognize anything relating to polymer compounding.

Second, the process described by the PTO is merely that disclosed by Brownawell with respect to the formation of the hollow solid composite. The teachings of Brownawell indicate that 75% appears to be the maximum concentration of chemically active filter media. Thus, there is no evidence that the process suggested by the PTO would produce pellets having Applicants' required concentration of basic salt. This is especially true given that the pellet form in Brownawell results only from the use of substrates in pellet form. The use of substrate material would automatically decrease the concentration of the chemically active media, i.e., in Applicants' case, the basic salt.

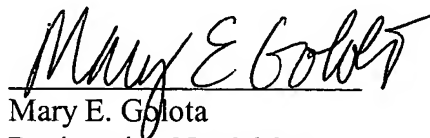
Nor is it clear that Brownawell suggests Applicants' required pellet size. Rather, Brownawell merely discloses the size of the active filter media before it is compounded into the solid hollow composite. Nothing in Brownawell or DeJovine suggest that the combined pellet of both binder and active filter media should have a diameter of from .1 to 3 mm. Indeed, the active filter particles of Brownawell having a size of less than 0.1 mm would fail to work in Applicants' invention, because they would fail to provide Applicants' required interstitial spaces. *See Applicants' Specification, page 8, lines 6-12.*

Thus, taken as a whole, the cited combination of references fails to disclose the inventions of Applicants' independent claims 1, 7, 10, 13, and 15.

## CONCLUSION

Applicant(s) respectfully submit that the Application and pending claims are patentable in view of the foregoing amendments and/or remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,



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